**Revision**



**Autumn 08/09 Part(a)**

GIVEN: Standard Basis (V1 and V2)

 

Step 1: Produce an orthonormal basis for V1





Step 2: Produce an orthonormal basis for V2











**ANSWER:** Orthonormal Basis = 

**part B**

Let f be a function on [-1; 3], taking the value yi = f(xi) at x =xi; (i = {1; 2; 3; 4; 5}) as given in the following table

|  |  |
| --- | --- |
| **xi** | **yi** |
| -1 | 6 |
| 0 | 3 |
| 1 | 2 |
| 2 | 0 |
| 3 | -1 |

Find the least squares approximation to f in P1 using

the inner product defined in part (a).

Solution: The best fit p(x) is given by











